REMARKS/ARGUMENTS

Claims 1-11 and 19-25 are pending in the present application. Claims 1, 19 and 23 have been amended. Claim 6 has been cancelled. No new claims have been added. Reconsideration of the present application is respectfully requested in light of the foregoing amendments and following remarks.

I. Claim Rejections - 35 USC § 102

The Examiner has rejected claims 1-8, 10, 11, and 19-25 under 35 U.S.C. 102(e) as allegedly being anticipated by U.S. Patent No. 6,387,329 to Lewis et al. ("Lewis"). The Examiner, alleges that Lewis teaches all the elements of claims 1-8, 10, 11, and 19-25.

Applicants respectfully disagree in that the Lewis reference does not anticipate the presently claimed invention for reasons set forth below.

A. The Cited Reference

Lewis is directed to the use of an array of polymeric sensors of varying thickness for detecting analytes in fluids. The motivation of Lewis in having an array of polymeric sensors with varying thicknesses is to address a need for a "polymer based sensor system that shows intra-array variation without necessarily changing the polymer itself." According to Lewis, an array of polymeric sensors with varying thicknesses would allow simultaneous determination of kinetic and equilibrium properties of an analyte (e.g., see col. 1, lines 62-67).

Lewis teaches a polymeric sensor array having a systematic variation in the thickness of the material in the sensors of the sensor array. Lewis also teaches that the time course of response to an analyte is different depending upon the thickness of the material film. According to Lewis, by using a varying thickness array, it is possible to combine rapid response times on the thinnest films in order to obtain quick information on the presence of an analyte, while simultaneously obtaining kinetic response information that allows measurement of the permeability of the analyte through the film, thus yielding information on the apparent diffusion coefficient as well as other kinetic information on the properties of the analyte being detected by

the sensors in the array. According to Lewis, the time-dependent course of response provides a method for identifying a molecule's diffusion coefficient. Thus, since Lewis is able to determine the molecule's diffusion coefficient, the sensor array is responsive to a molecule's characteristics. The physical characteristics that Lewis' sensor provides is the analyte molecule's diffusion coefficient. For example, see col.6, lines 5-6, where Lewis states:"... a calculation of the diffusion coefficient is a temporal physical process." (see also col. 2, lines 26-28).

B. Cited Reference Distinguished

The Lewis reference does not teach the prominent elements of claims 1, 19, and 23-25. These prominent elements include a first sensor array comprising sensors capable of producing a first response in the presence of a chemical stimulus, and a second sensor array comprising sensors capable of producing a second response in the presence of a physical stimulus.

The Lewis reference teaches one sensor array and not a device or a method that uses two distinct sensor arrays, where one sensor array is responsive to a chemical stimuli and the other is responsive to a physical stimuli. Besides not teaching two distinct sensor arrays, Lewis does not teach that the second sensor array is responsive to a physical stimuli.

As used herein, the second sensor array of the presently claimed invention, which is responsive to a physical stimuli includes sensors such an optical sensor, a mechanical sensor, a radiation sensor, a thermal sensor or combinations thereof, as is recited in dependent claim 6. Applicants respectfully submit that the Lewis reference is completely silent regarding the use of such mechanical sensors as is recited by the presently claimed invention.

Applicants note that the Examiner, has relied on the teachings of col. 25, lines 48 to col. 26, line 23 and col. 28, lines 3-13 of Lewis, to allege that the Lewis sensors that are responsive to a physical stimuli include sensors such an optical sensor, a mechanical sensor, a radiation sensor, a thermal sensor or combinations thereof. Applicants respectfully disagree with the Examiner's interpretation of the teachings of Lewis. Col. 25, lines 48 to col. 26, line 23 and col. 28, lines 3-13 of Lewis do not teach sensors responsive to a physical stimuli that include

sensors such an optical sensor, a mechanical sensor, a radiation sensor, a thermal sensor or combinations thereof. These sections and Lewis in general state the well-known premise that diffusion coefficient is dependent on temperature. So, since the variable thickness sensor array of Lewis allows for the determination of the analyte molecule's diffusion coefficient, and since diffusion coefficient is know to be temperature dependent, it then follows that in some embodiments of the variable thickness sensor array of Lewis, some of the chemi-sensors are in communication with a temperature control apparatus - to allow for the calculation of the analyte molecule's diffusion coefficient.

In order to better articulate the distinction between the presently claimed invention and that of Lewis, Applicants have amended claims 1, 19 and 23 as is set forth above. Accordingly, Applicants submit that the amended claims are clearly distinguishable over the cited reference and thus overcome the Examiner's section 102(e) rejection. Furthermore, considering that claims 2-8 and 10-11 add further limitations to and include all of the features and limitations of independent claim 1 from which they depend, these claims are patentable at least to same extent that independent claim 1 is patentable. In addition, considering that claims 20-22 add further limitations to and include all of the features and limitations of independent claim 19 from which they depend, these claims are patentable at least to same extent that independent claim 19 is patentable.

Furthermore, in addition to reasons set forth above, Applicants respectfully submit that amended claim 23 is also clearly distinguishable over the cited reference and thus overcomes the Examiner's section 102(e) rejection, for the additional reasons set forth below. Lewis does not teach all of the elements of independent claim 23, and in particular Lewis does teach a first sensor array connected to a network via a wireless connection. Lewis is completely silent with regard to a first sensor array being connected to a network via a wireless connection.

Furthermore, in addition to reasons set forth above, Applicants respectfully submit that claim 24 is also clearly distinguishable over the cited reference and thus is not anticipated by Lewis, for the additional reasons set forth below. Lewis does not teach all of the elements of independent claim 24, and in particular Lewis does teach a second sensor array

wherein one of the sensors of the second sensor array is an infrared sensor. Lewis is completely silent with regard to a second sensor array and wherein one of the sensors of the second sensor array is an infrared sensor.

Furthermore, in addition to reasons set forth above, Applicants respectfully submit that claim 25 is also clearly distinguishable over the cited reference and thus is not anticipated by Lewis, for the additional reasons set forth below. Lewis does not teach all of the elements of independent claim 25, and in particular Lewis does teach a first sensor array connected to a network via a wireless connection. Lewis is completely silent with regard to a first sensor array that is connected to a network via a wireless connection. And, Lewis does teach a second sensor array wherein one of the sensors of the second sensor array is an infrared sensor. Lewis is completely silent with regard to a second sensor array and wherein one of the sensors of the second sensor array is an infrared sensor.

Accordingly, Applicants respectfully request the Examiner withdraws the section 102(e) rejections of claim 24-25.

II. Claim Rejections - 35 USC § 103

The Examiner has rejected claim 9 under 35 U.S.C. 103(a) as allegedly being obvious over Lewis in view of U.S. Patent No. 6,220,371 to Sharma et al. ("Sharma"). The Examiner finds that Lewis does not teach wireless communication being implemented using radio waves. The Examiner then asserts that Sharma teaches wireless communication being implemented using radio wave technology per col. 10, lines 34-47 of Sharma, and that it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Lewis to include wireless communicating using radio waves as is taught by Sharma.

While the Applicants agree with the Examiner that Lewis does not teach wireless communication in general and/or wireless communication using radio wave technology in particular, as is set forth above, Applicants respectfully disagree with the Examiner's rejection of claim 9 under 35 U.S.C. 103(a).

Applicants respectfully submit that for reasons set forth above for claim 1, that claim 9, which depends from and includes all of the features and limitations of independent claim1, is patentable and distinguishable over the Lewis (Primary) reference. In addition to the fact that the Sharma reference is entirely unrelated and non-analogous with the Lewis reference, the Sharma reference does not supply the deficiencies of the Primary reference. The Sharma reference is directed to the real time in-situ measuring of the downhole chemical properties of a core of an earth formation during a coring operation and comprises several embodiments that may use electromagnetic, acoustic, fluid and differential pressure, temperature, gamma and x-ray, neutron radiation, nuclear magnetic resonance, and mudwater invasion measurements to measure the chemical and or physical properties of the core that may include porosity, bulk density, mineralogy, and fluid saturations. In an entirely non-analogous area, Lewis teaches using an olfactory sensor array having variable thickness arrays. Lewis is not related to real time in-situ measuring of the downhole chemical properties of a core of an earth formation. There is no motivation in Lewis to combine its varying thickness sensor array with the device of Sharma. Likewise, there is no motivation in Sharma to look to Lewis. Assuming *arguendo,* that a motivation did exist to combine Lewis and Sharma, as suggested by the Examiner, which does not, such a putative combination would still not render obvious the presently claimed invention, for reasons set forth below.

The Examiner has relied on col. 10, lines 34-47 of Sharma to allege that Sharma teaches wireless communication. Applicants respectfully disagree. For the Examiner's convenience, a portion of the teachings of col. 10, lines 34-47 of Sharma are reproduced below.

> *"An alternative embodiment of the present invention could use transmission, through the core, of a single source of radiation to monitor the composition of the core by computer aided tomography (CAT). The radiation may be either from a radioactive source or from an x-ray generator. ....."*

A review of this section shows that it is related to the transmission of x-ray or radioactive energy through the core to perform computer aided tomography. This section, and

for that matter the entire Sharma reference is completely silent with regards to the transmission of sensor response in a distributed sensing system to a network device via a wireless transmission, as is recited in claim 9.

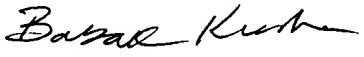
Sharma's teachings, by themselves or in combination with the teachings of Lewis still do not render amended independent claim 1 and dependent claim 9, which depends therefrom obvious. Accordingly, Applicants request the Examiner withdraws the section 103 rejection of claim 9.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 925-472-5000.

Respectfully submitted,



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